

Name:
Enrolment No:



UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM & ENERGY STUDIES
Supplementary / End Semester Examination (Online) – July, 2020

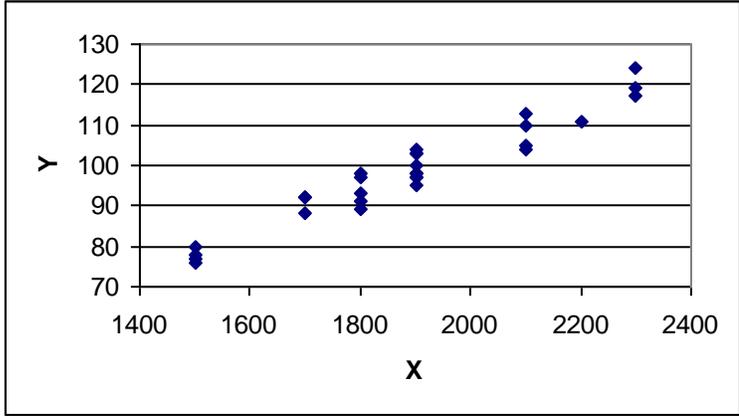
Program: BBA (AM, DM, MM, FT, E-Business, LM, Core, AIS, FAS, ABD, FBE, OG)
Subject/Course: Business Statistics
Course Code: BBCQ122 / DSQT1004

Semester: II
Max. Marks: 100
Duration : 3 Hours

IMPORTANT INSTRUCTIONS

1. The student must write his/her name and enrolment no. in the space designated above.
2. The questions have to be answered in this MS Word document.
3. After attempting the questions in this document, the student has to upload this MS Word document on Blackboard.
4. Attempt any five questions. Each question carries equal marks.

		Marks	COs														
Q.1	<p align="center">Case : Where are soft drinks sold?</p> <p>The soft drink market is an extremely large and growing market in the India and worldwide. In a recent year, 9.6 billion cases of soft drinks were sold in India alone. The data of soft drink sold is displayed graphically using Pie chart:</p> <div style="text-align: center;"> <table border="1" style="margin: 10px auto;"> <caption>Soft Drink Sales Distribution</caption> <thead> <tr> <th>Outlet Type</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Supermarket</td> <td>44%</td> </tr> <tr> <td>Fountain</td> <td>24%</td> </tr> <tr> <td>Convenience/gas stores</td> <td>16%</td> </tr> <tr> <td>Vending Machines</td> <td>11%</td> </tr> <tr> <td>Mass Merchandisers</td> <td>3%</td> </tr> <tr> <td>Drugstores</td> <td>2%</td> </tr> </tbody> </table> </div> <p>Analyze the above pie chart and answer the following:</p> <ol style="list-style-type: none"> a. How this information might be useful to large soft drink companies? b. How might the packaging of soft drinks differ according to the top four places where soft drinks are sold? 	Outlet Type	Percentage	Supermarket	44%	Fountain	24%	Convenience/gas stores	16%	Vending Machines	11%	Mass Merchandisers	3%	Drugstores	2%	20	CO ₁
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	<p>c. How might the distribution of soft drinks differ between the various places where soft drinks are sold?</p> <p>d. Which one is the most important place with respect to soft drink sell?</p>		
Q.2	<p>The mean, median and mode of the marks of a class of 100 students are 56.7, 60 and 63 respectively.</p> <p>(i) What can you conclude with these information?</p> <p>(ii) Comment on the symmetry about the data set.</p> <p>(iii) Comment on the Skewness of the distribution of marks.</p> <p>(iv) What other information (measures) is required to get more information about the data set.</p>	20	CO ₂
Q.3	<p>Relationship between two variables X and Y are presented in the below graph,</p>  <p>(i) Which kind of relation is there between X and Y?</p> <p>(ii) Which kind of relation is there between Y and X?</p> <p>(iii) Give a real life example on the same relationship shared by X and Y in the above graph.</p> <p>(iv) Can correlation be zero? Give any one real life example.</p>	20	CO ₃
Q.4	<p>Consider an example where a pack contains 4 blue, 2 red and 3 black pens. If a pen is drawn at random from the pack, replaced and the process repeated 2 more times, then probability of drawing 2 blue pens and 1 black pen.</p> <p>(i) Which law of probability will be applicable to solve this questions?</p> <p>(ii) Are both events mutually exclusive?</p> <p>(iii) Are both events independent? Why?</p>	20	CO ₄

	(iv) In the same experiment can we calculate the probability of getting any green pen? If yes how?																																															
Q.5	<p>Which of the following statement is correct / incorrect with respect to measures of dispersion. Explain with proper reason.</p> <p>(i) Range is based upon only two observation. (ii) Mean Deviation about an average is not an ideal measure of dispersion even though it is based upon all of the observation. (iii) Standard deviation is an ideal measure of dispersion. (iv) Dispersion is an additional information required to get more idea about the distribution of data.</p>	20	CO ₃																																													
Q. 6	<table border="1"> <thead> <tr> <th>Marks</th> <th>No. of Students</th> <th>Column A</th> <th>Column B</th> <th>Column C</th> </tr> </thead> <tbody> <tr> <td>0 - 10</td> <td>5</td> <td>5</td> <td>100</td> <td>5</td> </tr> <tr> <td>10-20</td> <td>7</td> <td>12</td> <td>95</td> <td>15</td> </tr> <tr> <td>20 - 30</td> <td>8</td> <td>20</td> <td>88</td> <td>25</td> </tr> <tr> <td>30 - 40</td> <td>12</td> <td>32</td> <td>80</td> <td>35</td> </tr> <tr> <td>40 - 50</td> <td>28</td> <td>60</td> <td>68</td> <td>45</td> </tr> <tr> <td>50 - 60</td> <td>22</td> <td>82</td> <td>40</td> <td>55</td> </tr> <tr> <td>60 - 70</td> <td>10</td> <td>92</td> <td>18</td> <td>65</td> </tr> <tr> <td>70 - 80</td> <td>8</td> <td>100</td> <td>8</td> <td>75</td> </tr> </tbody> </table> <p>The marks of the BBA students in mathematics are given in the form of frequency distribution, answer the following with proper reason :</p> <p>(i) Which kind of class interval is given? (ii) What is being calculated in Column A? (iii) What is being calculated in Column B? (iv) What is being calculated in Column C? (v) What is the strength of the class whose frequency distribution is given?</p>	Marks	No. of Students	Column A	Column B	Column C	0 - 10	5	5	100	5	10-20	7	12	95	15	20 - 30	8	20	88	25	30 - 40	12	32	80	35	40 - 50	28	60	68	45	50 - 60	22	82	40	55	60 - 70	10	92	18	65	70 - 80	8	100	8	75		CO ₄
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ANSWERS